

Claims

1. (Currently Amended) A method comprising:

determining a power save status of a first station wherein said first station communicates via a shared-communications channel in accordance with a first modulation scheme; and

responsive to a determination that the first station is not in a power save state, enabling transmission protection at a second station via ~~said the~~ shared-communications channel-wherein said enabling is dependent on said power save status.

2. (Currently Amended) The method of claim 1 wherein ~~said~~ determining a power save status of a first station comprises:

transmitting one of a Request-to-Send frame, a Data frame, and a Null frame to ~~said the~~ first station via ~~said the~~ shared-communications channel in accordance with ~~said the~~ first modulation scheme; and

receiving one of an Acknowledgement frame and a Clear-to-Send frame from ~~said the~~ first station.

3. (Currently Amended) The method of claim 1 wherein ~~said~~ enabling transmission protection comprises broadcasting a management frame via ~~said the~~ shared-communications channel.

4. (Currently Amended) The method of claim 3 wherein ~~said the~~ management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

5. (Currently Amended) The method of claim 3 wherein ~~said the~~ first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

6. (Currently Amended) A method comprising:

receiving a first frame from a station via a shared-communications channel wherein ~~said the~~ station communicates in accordance with a first modulation scheme;

determining whether the station is in power save mode; and

broadcasting an IEEE 802.11 Probe-Response frame via said shared-communications channel in response to ~~said the~~ receiving of the first frame;

wherein said IEEE 802.11 Probe-Response frame indicates that protection status is active.

7. (Currently Amended) The method of claim 6 wherein ~~said the~~ first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

8. (Currently Amended) A method comprising:

determining a power save status of a first station that communicates via a shared-communications channel in accordance with a first modulation scheme;

responsive to determining the power save status of the first station, alternately enabling and disabling transmission protection at a the first station that communicates via a shared-communications channel in accordance with a first modulation scheme;

wherein ~~said the~~ first modulation scheme is undetectable to a second station that communicates via ~~said the~~ shared-communications channel in accordance with a second

modulation scheme wherein ~~the enabling or disabling of the transmission protection is associated with a determination of whether the first station is in a power save mode;~~ and

wherein ~~said the~~ first modulation scheme and ~~said the~~ second modulation scheme are different from each other.

9. (Currently Amended) The method of claim 8 wherein ~~said the~~ enabling of transmission protection and ~~said the~~ disabling of transmission protection are periodic with respect to one of (i) frames transmitted and (ii) time.

10. (Currently Amended) The method of claim 8 wherein ~~said the~~ of transmission protection and ~~said the~~ disabling of transmission protection are sporadic with respect to one of (i) frames transmitted and (ii) time.

11. (Currently Amended) The method of claim 8 further comprising extending transmission protection for a first interval when receiving a first frame from ~~said the~~ second station while transmission protection is enabled, wherein ~~said the~~ first interval is measured in one of (i) time and (ii) frames.

12. (Currently Amended) The method of claim 8 further comprising activating transmission protection for a first interval when receiving a first frame from ~~said the~~ second station while transmission protection is disabled, wherein ~~said~~ first interval is measured in one of (i) time and (ii) frames.

13. (Currently Amended) The method of claim 8 wherein ~~said the~~ enabling of transmission protection comprises transmitting a first management frame via said shared-communications channel.

14. (Currently Amended) The method of claim 13 wherein ~~said the~~ first management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

15. (Currently Amended) The method of claim 8:

wherein ~~said the~~ first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation; and

wherein ~~said the~~ second modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation.

16. (Currently Amended) A method comprising:

transmitting a first frame comprising a duration field value to a first station via a shared-communications channel in accordance with a first modulation scheme;

receiving a second frame from a second station via ~~said the~~ shared-communications channel in accordance with a second modulation scheme during a time interval defined by ~~said the~~ duration field value;

determining whether the second station is in power save mode; and

receiving a third frame via ~~said the~~ shared-communications channel in accordance with said first modulation scheme after ~~said the~~ time interval;

wherein ~~said the~~ first modulation scheme is undetectable to ~~said the~~ second station; and

wherein ~~said the~~ first modulation scheme and ~~said the~~ second modulation scheme are different from each other.

17. (Currently Amended) The method of claim 16:

wherein ~~said the~~ first modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation; and

wherein ~~said the~~ second modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

18. (Currently Amended) The method of claim 16 wherein ~~said the~~ transmitting is one of (i) periodic and (ii) sporadic.

19. (Currently Amended) The method of claim 16 wherein ~~said the~~ frame is a Clear-to-Send frame and ~~said the~~ first station is the sender of ~~said the~~ frame.

20. (Currently Amended) An apparatus comprising:

a processor for determining a power save status of a first station wherein ~~said the~~ first station communicates via a shared-communications channel in accordance with a first modulation scheme; and

a transmitter for enabling transmission protection at a second station via ~~said the~~ shared-communications channel wherein ~~said the enabling of transmission protection is dependent on~~ said responsive to a determination of the power save status.

21. (Currently Amended) The apparatus of claim 20 wherein ~~said the enabling of transmission protection~~ comprises broadcasting a management frame via ~~said the~~ shared-communications channel.

22. (Currently Amended) The apparatus of claim 21 wherein ~~said the~~ management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

23. (Currently Amended) The apparatus of claim 21 wherein ~~said the~~ first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

24. (Currently Amended) An apparatus comprising:

a receiver ~~configured to receive for receiving~~ a first frame from a station via a shared-communications channel wherein ~~said the~~ station communicates in accordance with a first modulation scheme and ~~wherein the receiver is configured to determine for determining~~ whether the station is in power save mode; and

a transmitter for broadcasting an IEEE 802.11 Probe-Response frame via ~~said the~~ shared-communications channel in response to ~~said receiving~~ determining whether the station is in power save mode;

wherein ~~said the~~ IEEE 802.11 Probe-Response frame indicates that a transmission protection status is active.

25. (Currently Amended) The apparatus of claim 24 wherein ~~said the~~ first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

26. (Currently Amended) An apparatus comprising:

a receiver for receiving in accordance with a first modulation scheme and a second modulation scheme via a shared-communications channel; and

a transmitter for alternately enabling and disabling transmission protection at a first station responsive to determining that the first station is in power save mode, wherein the first station communicates via a shared-communications channel in accordance with a first modulation scheme;

wherein ~~said the~~ first modulation scheme is undetectable to a second station that communicates via ~~said the~~ shared-communications channel in accordance with a second modulation scheme; and

wherein ~~said the~~ first modulation scheme and ~~said the~~ second modulation scheme are different from each other.

27. (Currently Amended) The apparatus of claim 26 wherein said the enabling of transmission protection and said the disabling of transmission protection are periodic with respect to one of (i) frames transmitted and (ii) time.

28. (Currently Amended) The apparatus of claim 26 wherein said the enabling of transmission protection and said the disabling of transmission protection are sporadic with respect to one of (i) frames transmitted and (ii) time.

29. (Currently Amended) The apparatus of claim 26 further comprising extending transmission protection for a first interval when receiving a first frame from said the second station while transmission protection is enabled, wherein said the first interval is measured in one of (i) time and (ii) frames.

30. (Currently Amended) The apparatus of claim 26 further comprising activating protection for a first interval when in response to receiving a first frame from said the second station while transmission protection is disabled, wherein said the first interval is measured in one of (i) time and (ii) frames.

31. (Currently Amended) The apparatus of claim 26 wherein said the enabling of transmission protection comprises transmitting a first management frame via said the shared-communications channel.

32. (Currently Amended) The apparatus of claim 31 wherein ~~said~~ the first management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

33. (Currently Amended) The apparatus of claim 26:

wherein ~~said~~ the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation; and

wherein ~~said~~ the second modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation.

34. (Currently Amended) An apparatus comprising:

a transmitter for transmitting a first frame comprising a duration field value to a first station via a shared-communications channel in accordance with a first modulation scheme and for determining whether the second station is in power save mode; and

a receiver for:

receiving a second frame from a second station via ~~said~~ the shared-communications channel in accordance with a second modulation scheme during a time interval defined by ~~said~~ the duration field value; and

receiving a third frame via said shared-communications channel in accordance with ~~said~~ the first modulation scheme after ~~said~~ the time interval;

wherein ~~said~~ the first modulation scheme is undetectable to ~~said~~ the second station; and

wherein said the first modulation scheme and said the second modulation scheme are different from each other.

35. (Currently Amended) The apparatus of claim 34:

wherein said the first modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation; and

wherein said the second modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

36. (Currently Amended) The apparatus of claim 34 wherein said the transmitting is one of (i) periodic and (ii) sporadic.

37. (Currently Amended) The apparatus of claim 34 wherein said the frame is a Clear-to-Send frame and said the first station is the sender of said the frame.